Claims

1. (Previously presented) A computer-implemented method, comprising:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components comprising a first component, a second component, and a third component, at least one connection between the first component and the second component, and at least one connection between the second component and the third component;

determining a plurality of connectivity strengths comprising a first connectivity strength comprising a number of the at least one connection between the first component and the second component and a second connectivity strength comprising a number of the at least one connection between the second component and the third component;

sorting the netlist at least in part according to the plurality of connectivity strengths, wherein the sorting comprises, upon determining that the first connectivity strength is greater than the second connectivity strength, sorting the first connectivity strength higher than the second connectivity strength;

generating symbols and connections formed according to the netlist and at least in part according to the plurality of connectivity strengths; and

generating a wiring harness diagram that comprises the symbols and the connections.

2. (Cancelled)

3. (Cancelled)

4. (Previously presented) The method of claim 1 further comprising:

sequencing symbol placement for the wiring harness diagram such that symbols with predetermined pin positions are placed in the wiring harness diagram with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

5. (Currently amended) A computer-implemented method, comprising:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components, wherein each of the plurality of interconnected components is represented by a symbol;

determining a connectivity strength for at least one pair of symbols, the connectivity strength comprising a number of connections existing between the at least one pair of symbols, the number of connections existing between the at least one pair of symbols being one or more;

sorting the netlist at least in part according to the connectivity strength for the at least one pair of symbols;

generating symbols and connections formed according to the netlist and at least in part according to the connectivity strength for the at ~~lest~~ least one pair of symbols;

sequencing symbol placement in a wiring harness layout at least in part according to the connectivity strength for the at least one pair of symbols, the sequencing comprising determining whether at least one of the at least one pair of symbols has already been placed in the wiring harness layout; and

generating a wiring harness diagram for at least one bundle according to the wiring harness layout, wherein the bundle comprises a plurality of wires.

6. (Original) The method of claim 5 further comprising:

selecting a side of a first symbol on which to position a pin to increase the directness of connectivity between the first symbol and a second symbol.

7. (Original) The method of claim 5 in which generating a wiring diagram according to the layout further comprises:

selecting sides of the symbols on which to position pins according to a selected layout dimension; and

arranging the pins on the selected sides to increase the directness of connections between the symbols.

8. (Original) The method of claim 5 further comprising:

sequencing symbol placement for the wiring harness diagram such that symbols with predetermined pin positions are placed in the layout with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

9. (Currently amended) A computer-implemented method, comprising:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components, wherein each of the plurality of interconnected components is represented by a symbol;

determining a connectivity strength for at least one pair of symbols, the at least one pair of symbols having at least one connection in-between, the connectivity strength being determined by the at least one connection in-between the at least one pair of symbols;

sorting the netlist at least in part according to the connectivity strength for the at least one pair of symbols;

generating symbols and connections formed according to the netlist and at least in part according to the connectivity strength for the at ~~lest~~ least one pair of symbols;

sequencing symbol placement in a wiring harness layout for at least one bundle comprising signal-carriers, at least in part according to the connectivity strength for the at least one pair of symbols; and

selecting a side of a first symbol on which to place a pin to increase the directness of connectivity between the first symbol and a second symbol.

10. (Original) The method of claim 9 in which selecting the side of the first symbol further comprises:

selecting the side according to a selected layout dimension and a position of the second symbol.

11. (Previously presented) The method of claim 9 further comprising:

sequencing symbol placement for the wiring harness layout such that symbols with predefined pin positions are placed in the layout with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

12. (Cancelled)

13. (Cancelled)

14. (Previously presented) An article comprising:

a machine-readable media comprising instructions which, when executed by the processor of a data processing device, result in:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components comprising a first component, a second component, and a third component, at least one connection between the first component and the second component, and at least one connection between the second component and the third component;

determining a plurality of connectivity strengths comprising a first connectivity strength comprising a number of the at least one connection between the first component and the second component and a second connectivity strength comprising a number of the at least one connection between the second component and the third component;

sorting the netlist at least in part according to the plurality of connectivity strengths, wherein the sorting comprises, upon determining that the first connectivity strength is greater than the second connectivity strength, sorting the first connectivity strength higher than the second connectivity strength;

generating symbols and connections formed according to the netlist and at least in part according to the plurality of connectivity strengths; and

generating a wiring harness diagram that comprises the symbols and the connections.

15. (Cancelled)

16. (Previously presented) The article of claim 14 in which the instructions, when executed by the processor to generate the symbols, further result in:

positioning a pin on a side of the first symbol, the side selected according to a connection between the first symbol and the second symbol.

17. (Previously presented) The article of claim 14 in which the instructions, when executed by the processor, further result in:

sequencing symbol placement for the wiring harness diagram such that symbols with predetermined pin positions are placed in the wiring harness diagram with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

18. (Currently amended) An article comprising:

a machine-readable media comprising instructions which, when executed by the processor of a data processing device, result in:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components, wherein each of the plurality of interconnected components is represented by a symbol;

determining a connectivity strength for at least one pair of symbols, the connectivity strength comprising a number of connections existing between the at least one pair of symbols, the number of connections existing between the at least one pair of symbols being one or more;

sorting the netlist at least in part according to the connectivity strength for the at least one pair of symbols;

generating symbols and connections formed according to the netlist and at least in part according to the connectivity strength for the at ~~lest~~ least one pair of symbols;

sequencing symbol placement in a wiring harness layout at least in part according to the connectivity strength for the at least one pair of symbols, the sequencing comprising determining whether at least one of the at least one pair of symbols has already been placed in the wiring harness layout; and

generating a wiring harness diagram for at least one bundle according to the wiring harness layout, wherein the bundle comprises a plurality of wires.

19. (Previously presented) The article of claim 18 in which the instructions, when executed by the processor, further result in:

selecting a side of a first symbol on which to position a pin to increase the directness of connectivity between the first symbol and a second symbol.

20. (Previously presented) The article of claim 18 in which the instructions, when executed by the processor to generate the wiring harness diagram, further result in:

selecting sides of the symbols on which to position pins according to a selected layout dimension.

21. (Previously presented) The article of claim 18 in which the instructions, when executed by the processor, further result in:

sequencing symbol placement for the wiring harness diagram such that symbols with predetermined pin positions are placed in the layout with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

22. (Currently amended) An article comprising:

a machine-readable media comprising instructions which, when executed by the processor of a data processing device, result in:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components, wherein each of the plurality of interconnected components is represented by a symbol;

determining a connectivity strength for at least one pair of symbols, the at least one pair of symbols having at least one connection in-between, the connectivity strength being determined by the at least one connection in-between the at least one pair of symbols;

sorting the netlist at least in part according to the connectivity strength for the at least one pair of symbols;

generating symbols and connections formed according to the netlist and at least in part according to the connectivity strength for the at ~~lest~~ least one pair of symbols;

sequencing symbol placement in a wiring harness layout for at least one bundle comprising signal-carriers, at least in part according to the connectivity strength for the at least one pair of symbols; and

selecting a side of a first symbol on which to place a pin to increase the directness of connectivity between the first symbol and a second symbol.

23. (Previously presented) The article of claim 18 in which the instructions, when executed by the processor to select the side of the first symbol, further result in:

selecting the side according to a selected wiring harness layout dimension and a position of the second symbol.

24. (Previously presented) The article of claim 22 in which the instructions, when executed by the processor, further result in:

sequencing symbol placement for the wiring harness layout such that symbols with predefined pin positions are placed in the layout with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

25. (Cancelled)

26. (Cancelled)

27. (Previously presented) An apparatus comprising:

a processor; and

a machine-readable media comprising instructions which, when executed by the processor, result in:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components comprising a first component, a second component, and a third component, at least one connection between the first component and the second component, and at least one connection between the second component and the third component;

determining a plurality of connectivity strengths comprising a first connectivity strength comprising a number of the at least one connection between the first component and the second component and a second connectivity strength comprising a number of the at least one connection between the second component and the third component;

sorting the netlist at least in part according to the plurality of connectivity strengths, wherein the sorting comprises, upon determining that the first connectivity strength is greater than the second connectivity strength, sorting the first connectivity strength higher than the second connectivity strength;

generating symbols and connections formed according to the netlist and at least in part according to the plurality of connectivity strengths; and

generating a wiring harness diagram that comprises the symbols and the connections.

28. (Previously presented) The apparatus of claim 27 in which the instructions, when executed by the processor to generate the wiring harness diagram, further result in:

sorting the netlist at least in part according to the connectivity strength.

29. (Previously presented) The apparatus of claim 27 in which the instructions, when executed by the processor to generate the symbols, further result in:

positioning a pin on a side of the first symbol, the side selected according to a connection between the first symbol and the second symbol.

30. (Previously presented) The apparatus of claim 27 in which the instructions, when executed by the processor, further result in:

sequencing symbol placement for the wiring harness layout such that symbols with predetermined pin positions are placed in the wiring harness diagram with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

31. (Currently amended) An apparatus comprising:

a processor; and

a machine-readable media comprising instructions which, when executed by the processor, result in:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components, wherein each of the plurality of interconnected components is represented by a symbol;

determining a connectivity strength for at least one pair of symbols, the connectivity strength comprising a number of connections existing between the at least one pair of symbols, the number of connections existing between the at least one pair of symbols being one or more;

sorting the netlist at least in part according to the connectivity strength for the at least one pair of symbols;

generating symbols and connections formed according to the netlist and at least in part according to the connectivity strength for the at ~~lest~~ least one pair of symbols;

sequencing symbol placement in a wiring harness layout at least in part according to the connectivity strength for the at least one pair of symbols, the sequencing comprising determining whether at least one of the at least one pair of symbols has already been placed in the wiring harness layout; and

generating a wiring harness diagram for at least one bundle according to the wiring harness layout, wherein the bundle comprises a plurality of wires.

32. (Original) The apparatus of claim 31 in which the instructions, when executed by the processor, further result in:

selecting a side of a first symbol on which to position a pin to increase the directness of connectivity between the first symbol and a second symbol.

33. (Original) The apparatus of claim 32 in which the instructions, when executed by the processor to generate the wiring harness diagram, result in:

selecting sides of the symbols on which to position pins according to a selected layout dimension; and

arranging the pins on the sides to increase the directness of connection between the symbols.

34. (Original) The apparatus of claim 32 in which the instructions, when executed by the processor, further result in:

sequencing symbol placement for the wiring harness layout such that symbols with predetermined pin positions are placed in the layout with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

35. (Currently amended) An apparatus comprising:

a processor; and

a machine-readable media comprising instructions which, when executed by the processor, result in:

inputting a netlist, the netlist comprising nodes identifying a plurality of interconnected components, wherein each of the plurality of interconnected components is represented by a symbol;

determining a connectivity strength for at least one pair of symbols, the at least one pair of symbols having at least one connection in-between, the connectivity strength being determined by the at least one connection in-between the at least one pair of symbols;

sorting the netlist at least in part according to the connectivity strength for the at least one pair of symbols;

generating symbols and connections formed according to the netlist and at least in part according to the connectivity strength for the at ~~lest~~ least one pair of symbols;

sequencing symbol placement in a wiring harness layout for at least one bundle comprising signal-carriers, at least in part according to the connectivity strength for the at least one pair of symbols; and

selecting a side of a first symbol on which to place a pin to increase the directness of connectivity between the first symbol and a second symbol.

36. (Original) The apparatus of claim 35 in which the instructions, when executed by the processor to select the side of the first symbol, result in:

selecting the side according to a selected layout dimension and a position of the second symbol.

37. (Original) The apparatus of claim 35 in which the instructions, when executed by the processor, further result in:

sequencing symbol placement for the layout such that symbols with predefined pin positions are placed in the layout with higher priority than symbols for which the side of the symbol for placing a pin may be selected.

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

42. (Previously presented) The method of claim 1, wherein the wiring harness diagram corresponds to a wiring harness, the wiring harness comprising at least one bundle of signal-carrying wires.

43. (Previously presented) The method of claim 1, wherein the wiring harness diagram is generated along a selected wiring harness layout dimension.

44. (Previously presented) The method of claim 42, wherein the signal-carrying wires carry electrical signals.

45. (Previously presented) The method of claim 42, wherein the signal-carrying wires carry optical signals.

46. (Previously presented) The method of claim 1, wherein the wiring harness diagram represents a wiring harness that establishes connectivity between at least two components.

47. (Previously presented) The method of claim 46, wherein at least one component is an electrical component.

48. (Previously presented) The method of claim 46, wherein at least one component is an optical component.

49. (Previously presented) The method of claim 1, wherein the act of generating a wiring harness diagram comprises resizing at least one symbol.

50. (Previously presented) The method of claim 1, wherein the act of generating a wiring harness diagram comprises repositioning at least one symbol.

51. (Previously presented) The method of claim 1, wherein the wiring harness diagram further comprises pins, wherein the act of generating the wiring harness diagram comprises arranging the pins to increase directness of connections between at least two symbols, and wherein at least one symbol is resized and at least one symbol is repositioned.

52. (Previously presented) The method of claim 7, wherein arranging the pins comprises resizing at least one symbol.

53. (Previously presented) The method of claim 7, wherein arranging the pins comprises repositioning at least one symbol.